

What is claimed is:

1. A mercury vapor discharge lamp comprising a light-transmissive envelope having an inner surface, means for providing a discharge, a discharge-sustaining fill gas sealed inside said envelope, a phosphor layer inside the envelope and adjacent the inner surface of the envelope, and a barrier layer between the envelope and the phosphor layer, the barrier layer comprising a blend of gamma alumina, alpha alumina and theta alumina.
2. The lamp of claim 1, wherein said blend of gamma alumina, alpha alumina and theta alumina is 5 to 80 weight percent gamma alumina, 5 to 80 weight percent alpha alumina, and 5 to 80 weight percent theta alumina.
3. The lamp of claim 1, wherein said blend of gamma alumina, alpha alumina and theta alumina is 5-80 weight percent gamma alumina, 5-80 weight percent alpha alumina, and 25-45 weight percent theta alumina.
4. The lamp of claim 1, wherein said blend of gamma alumina, alpha alumina and theta alumina is 25-45 weight percent gamma alumina, 25-45 weight percent alpha alumina, and 25-45 weight percent theta alumina.
5. The lamp of claim 1, wherein said blend of gamma alumina, alpha alumina and theta alumina is about 33 weight percent gamma alumina, about 33 weight percent alpha alumina, and about 33 weight percent theta alumina.
6. The lamp of claim 1, wherein said alumina blend is present in said barrier layer in a coating weight of 0.1 to 3 mg/cm<sup>2</sup>.
7. The lamp of claim 2, wherein said alumina blend is present in said barrier layer in a coating weight of 0.3 to 1 mg/cm<sup>2</sup>.

8. The lamp of claim 1, wherein said phosphor layer is a rare earth phosphor layer.
9. The lamp of claim 8, further comprising a halophosphate phosphor layer between said barrier layer and said rare earth phosphor layer.
10. The lamp of claim 1, wherein said gamma alumina has a surface area of 30 to 140 m<sup>2</sup>/gm, said alpha alumina has a surface area of 0.5 to 15 m<sup>2</sup>/gm, and said theta alumina has a surface area of 10-80 m<sup>2</sup>/gm.
11. The lamp of claim 1, wherein said gamma alumina has a surface area of 50-120 m<sup>2</sup>/gm, said alpha alumina has a surface area of 3-8 m<sup>2</sup>/gm, and said theta alumina has a surface area of about 38 m<sup>2</sup>/gm.
12. The lamp of claim 1, wherein said alumina blend is present in said barrier layer in a coating weight effective to provide at least 70% reflectance relative to barium sulfate of UV light at 254 nm.
13. The lamp of claim 1, wherein said alumina blend is present in said barrier layer in a coating weight effective to provide at least 80% reflectance relative to barium sulfate of UV light at 254 nm.
14. The lamp of claim 1, said lamp being a low pressure mercury vapor discharge lamp having a pair of spaced electrodes.
15. The lamp of claim 1, wherein said barrier layer consists essentially of a blend of gamma alumina, alpha alumina and theta alumina.